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The impact of comorbid personality difficulties on response to IAPT treatment for depression and anxiety



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ABSTRACT

The UK's Improving Access to Psychological Therapies (IAPT) initiative provides evidence-based psychological interventions for mild to moderate common mental health problems in a primary care setting. Predictors of treatment response are unclear. This study examined the impact of personality disorder status on outcome in a large IAPT service. We hypothesised that the presence of probable personality disorder would adversely affect treatment response.

Method: We used a prospective cohort design to study a consecutive sample of individuals ($n = 1249$). **Results:** Higher scores on a screening measure for personality disorder were associated with poorer outcome on measures of depression, anxiety and social functioning, and reduced recovery rates at the end of treatment. These associations were not confounded by demographic status, initial symptom severity nor number of treatment sessions. The presence of personality difficulties independently predicted reduced absolute change on all outcome measures.

Conclusions: The presence of co-morbid personality difficulties adversely affects treatment outcome among individuals attending for treatment in an IAPT service. There is a need to routinely assess for the presence of personality difficulties on all individuals referred to IAPT services. This information will provide important prognostic data and could lead to the provision of more effective, personalised treatment in IAPT.

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1. Introduction

In 2008, the Improving Access to Psychological Therapies (IAPT) programme was established in England, in order to improve access to psychological interventions for people with depression and anxiety. IAPT services offer a single point of access for evidence-based psychological therapies that are recommended by the National Institute of Health and Clinical Excellence (NICE) for mild to moderate anxiety or depression (e.g. cognitive behaviour therapy; CBT) (Clark, 2011; Layard et al., 2006). IAPT services now receive almost 900,000 referrals per annum with more than half of referred individuals entering treatment

(Community and Mental Health team Health and Social Care Information Centre, 2014, 2015; Gyani, Shafran, Layard, & Clark, 2011). The services use a 'stepped care' approach for the delivery of time-limited, focused psychological treatment (high or low intensity intervention). Regular outcome and session-by-session monitoring data are collected via validated questionnaires of social functioning and symptoms, allowing progress to be routinely tracked.

IAPT services are commissioned with the remit of improving the health and well-being of their clients. One of the Key Performance Indicators that IAPT services are evaluated on is the rate of people 'moving towards recovery'. This has been operationally defined as an individual moving from a 'case' at pre-treatment to 'non-case' at post treatment based on scores on specific symptom measures for depression and anxiety. Recent national reports indicate that approximately 45% of those entering IAPT services achieve recovery status at the end of treatment and one report found that only 3

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national sites achieve a 50% recovery target (Community and Mental Health team Health and Social Care Information Centre, 2014, 2015; Gyani et al., 2011). Little is known about what characteristics predict an individual's response to treatment in IAPT services and the identification of predictors of treatment outcome could enable services to tailor their interventions more effectively and improve outcomes.

Although CBT is generally associated with medium-to-large effect sizes for depression and anxiety disorders (Butler, Chapman, Forman, & Beck, 2006; Cuijpers et al., 2013, 2014; Hoffman & Smits, 2008; Olatunji et al., 2014; Twomey, O'Reilly, & Byrne, 2014), there is heterogeneity in outcome, with initial symptom severity being an established risk factor for poorer treatment outcome (Haby, Donnelly, Corry, & Vos, 2006). Other predictors of poor response to CBT, and more specifically IAPT treatment, are more elusive, although a potentially important prognostic factor is the presence of co-morbid personality difficulties. The presence of a comorbid personality disorder has been shown to adversely affect treatment outcome for depression (e.g. Gorwood et al., 2010; Newton-Howes, Tyrer, & Johnson, 2006) and specific personality disorder diagnoses also appear to be associated with a poorer prognosis for certain anxiety disorders (Black, Wesner, Gabel, Bowers, & Monahan, 1994; Hansen, Vogel, Stiles, & Götestam, 2007; Steketee, Chambless, & Tran, 2001; Telch, Kamphuis, & Schmidt, 2011). However, the findings are mixed since other studies report null effects (e.g. Joyce et al., 2007; Kampman, Keijsers, Hoogduin, & Hendriks, 2008). Therefore personality disorder may be a highly relevant prognostic factor for IAPT treatment.

Individuals with a personality disorder suffer from high rates of comorbid depression and anxiety (Fribourg, Martinussen, Kaiser, Øvergård, & Rosenveinge, 2013; Zanarini et al., 1998). Moreover, compared to individuals without a co-morbid personality disorder, those with a co-morbid personality disorder may experience more episodes of depression and anxiety in the past, and tend to experience a more chronic course of illness (Gunderson et al., 2008). There are, however, no data available on the prevalence or impact of personality disorder in individuals accessing IAPT services. The prevalence of personality disorder among those attending primary care services (a setting from which substantial numbers of IAPT referrals derive) is known to be high (Moran, Jenkins, Tylee, Blizard, & Mann, 2000). Potentially, IAPT services may therefore be seeing large numbers of people with hitherto unrecognised personality difficulties or frank personality disorder. It is unclear whether the occurrence of these difficulties has an adverse impact on the effectiveness of psychological treatment offered by IAPT services.

Using a prospective cohort study design, we set out to examine whether the likely presence of personality disorder independently predicted treatment outcomes in a large established IAPT service in London. Based on the existing literature, we hypothesised that increased risk of a personality disorder would independently predict higher levels of symptomatology, greater functional impairment, and persistent caseness and reduced change at end of treatment. Secondary hypotheses were that, compared to individuals at lower risk of personality disorder, individuals at high risk of personality disorder would be more likely to drop out of treatment.

2. Method

2.1. Setting

Southwark Psychological Therapies Service (SPTS) is one of the 35 UK sites that initially implemented the IAPT programme. The majority of referrals are from the GP or self-referrals.

Individual referrals are reviewed and clients are asked to complete an assessment battery, which includes a variety of demographic and clinical questionnaires (see Measures below), by post. Individuals are then offered an initial assessment appointment with a clinician, either on the telephone or face to face. The treatment options are discussed with the individual and a treatment plan is collaboratively agreed based on a number of factors, such as symptom severity, patient choice, and logistics. CBT is the predominant approach adopted by the service in both low and high intensity interventions.

2.2. Population, sample and data extraction

IAPTus is an online, secure electronic database where clinicians input data routinely collected on clients. For the purposes of this study, data were extracted from the IAPTus electronic patient database for all individuals who had attended an initial assessment session (phone or face to face) between January 1st 2012 and December 31st 2012 inclusive and who had a rating of personality disorder ($n = 1249$). All individuals were adults aged 18 or above. Some individuals were referred more than once during the specified time period and to ensure independence of data, only one treatment episode per person was included in the analysis. Of the 1249 individuals, 1005 individuals (81%) had end of treatment ratings of symptoms and these individuals formed the analytic sample.

2.3. Measures

The assessment battery includes validated self-report questionnaires for symptoms and functioning. Those listed below were used in analyses for the present study. Demographic data were collected via the initial assessment form. Clinical details (number of sessions, treatment allocation, and reason for end of treatment) were recorded by the treating therapist.

2.3.1. Patient health questionnaire (PHQ-9; Kroenke, Spitzer, & Williams, 2001)

This is a validated 9-item measure of depression completed at initial assessment and every clinical contact. A score of ≥ 10 is considered to be of clinical significance and is used as a cut-off to identify caseness. The PHQ-9 has good internal consistency when applied in primary care populations ($\alpha = .89$; Kroenke et al., 2001).

2.3.2. Generalised anxiety disorder assessment (GAD-7; Spitzer, Kroenke, Williams, & Lowe, 2006)

This is a validated 7 item measure of anxiety completed at initial assessment and every clinical contact. A score of ≥ 8 is considered to be of clinical significance and is used as a cut off to identify caseness. Although developed to measure generalised anxiety disorder, the measure has satisfactory psychometric properties for detecting a range of anxiety disorders (Kroenke, Spitzer, Williams, Monahan, & Lowe, 2007) and has good internal consistency when applied in primary care ($\alpha = .92$; Spitzer et al., 2006).

2.3.3. Work and social adjustment scale (W&SAS; Mundt, Isaac, Shear, & Greist, 2002)

This is a validated 5-item measure of impaired functioning completed at the initial assessment and every clinical contact. The W&SAS assesses the impact of an individual's mental health difficulties on their work, home management, social leisure activities, private leisure activities and relationships. The W&SAS has good internal consistency when applied in

populations seeking treatment for depression ($\alpha = .81$; Mundt et al., 2002).

2.3.4. Standardised assessment of personality – abbreviated scale (SAPAS; Moran et al., 2003)

This is an 8-item scale that is completed at the initial assessment only. The self-report version of the SAPAS is an adequate alternative to the mini interview from which it was derived, with no loss of specificity and sensitivity (Germans, van Heck, Moran, & Hodiamont, 2008). Recipients are asked to indicate whether they endorse a particular personality trait in general using a dichotomous yes/no response format. The summed score (0–8) represents the likelihood of a person having a personality disorder (i.e. a higher score indicates higher risk) and does not aim to screen for specific personality disorder categories. The original validation study found that using a cut off score of 3 or 4 on the SAPAS correctly identified 80% of patients as having a personality disorder in a psychiatric population (Moran et al., 2003). The measure has been further validated in samples of patients with substance dependency (Hesse & Moran, 2010) and in large outpatient populations of patients with depression (Bukh, Bock, Vinberg, Gether, & Kessing, 2010; Gorwood et al., 2010). The internal consistency in the present sample was $\alpha = .6$.

2.4. Ethics

The study was part of a wider service evaluation, for which all individuals accessing SPTS had consented to their anonymised information being stored on an electronic database and used for evaluation purposes. This project was approved by the South London and Maudsley NHS Trust Mood, Anxiety and Personality Clinical Academic Group audit committee.

2.5. Data analysis

Normally distributed demographic and clinical data were described using means and standard deviations. Frequency data were presented where appropriate. Between-group comparisons were made using t-tests or Chi square tests. Multiple linear and logistic regression analyses were used to examine the predictive value of clinical information obtained at initial assessment on outcome at end of treatment. Dependent variables were continuous scores on PHQ-9, GAD-7 and W&SAS at last clinical contact and dummy coded binary variables to indicate casesness on PHQ-9 (≥ 10) and GAD-7 (≥ 8). Change scores were derived as dependent variables, by subtracting the final score from the initial score on the same measure. Therefore, a large absolute value indicates more change than a smaller value, and negative values indicate a deterioration in clinical presentation. In addition, reason for end of treatment was dummy coded to represent whether an individual had completed treatment (scheduled vs unscheduled discontinuation of therapy) and was used as a dependent variable in logistic regression analyses for those who had attended 2 or more sessions. Independent variables that were entered into regression models were: age, gender, SAPAS score, initial assessment scores for PHQ-9, GAD-7 and W&SAS (in order to adjust for baseline symptom severity) and the number of sessions attended. ICD-10 diagnostic codes are not reported in this report as a recent report found that they were not reliably entered (Nasrin, unpublished data) and do not affect predictive models of outcome (Gyani et al., 2011). Statistical significance was set at $p = .05$ but raw p values are shown.

3. Results

3.1. Sample description

Demographic data for the sample are presented in Table 1. The majority of the sample were female and of White ethnic origin. Fifty-four percent were employed at time of initial assessment. Forty-seven percent of the present sample completed the treatment, 35% prematurely discontinued treatment, 17% were referred on to another service, and 2% were coded as not suitable for the service. Forty-seven percent of the sample was initially allocated to low intensity treatment and 54% was initially allocated to high intensity treatment. Individuals with higher SAPAS scores were more likely to be allocated to high intensity interventions ($B = .15$, $SE = .04$, $Wald = 11.3$, $p = .001$, odds ratio = 1.2, 95% CI = 1.1–1.3). Individuals who received at least two sessions (i.e. it was assumed they received some form of treatment) received an average of 9.1 sessions in total ($SD = 6.6$).

3.2. Missing data

Thirty-four percent of the sample did not have paired outcome data available (i.e. last session scores for PHQ-9, GAD-7 or W&SAS). Those who had paired outcomes were significantly older ($M = 37.1$, $SD = 12.1$) than those who did not have paired outcomes ($M = 34.6$, $SD = 12.1$) ($t(987) = -2.97$, $p = .003$) and had significantly higher first session PHQ-9 ($M = 15.6$, $SD = 7.2$ versus $M = 13.4$, $SD = 6.5$; $t(560.4) = 4.6$, $p < .001$; equal variances not assumed), GAD-7 ($M = 13.0$, $SD = 5.9$ versus $M = 11.8$, $SD = 5.4$; $t(979) = 3.0$, $p = .003$) and SAPAS ($M = 4.3$, $SD = 2.0$ versus $M = 3.8$, $SD = 1.9$; $t(627.2) = 3.5$, $p = .001$; equal variances not assumed) scores compared to those who did not have last session outcome data available. There were no differences between groups on the W&SAS. Individuals who did not have paired outcome measures attended an average of 1.8 sessions ($SD = 1.2$). Individuals who had

Table 1

Demographic data for individuals who attended an initial assessment in 2012 and had a completed SAPAS available.

	M (SD)	
Age	36.2 (12.1)	N
Sex		%
Male	357	35.6
Female	645	64.4
Ethnicity		
Any White	686	73.7
Caribbean or mixed Caribbean	68	7.2
African or mixed African	48	5.1
Any other Black	29	3.1
Asian or mixed Asian	38	4.0
Any other mixed	17	1.8
Any other ethnic group	29	3.1
Not stated	6	.6
Employment		
Employed	521	53.9
Unemployed and seeking work	119	12.3
Student (FT or PT) not seeking work	88	9.1
Long term sick or disabled	141	14.6
Homemaker not seeking paid work	40	4.1
Not receiving benefits, not working or seeking work	29	3.0
Retired	20	2.1
Sick pay		
No	874	90.4
Yes	51	5.3
Unknown/not stated	42	4.3

KEY: M = Mean; SD = Standard deviation; N = Number of people; FT = Full time; PT = Part time; SAPAS: Standardised Assessment of Personality – Abbreviated Scale.

completed the treatment episode did not differ on the SAPAS from those who did not ($p = .09$).

3.3. Does baseline SAPAS score independently predict clinical outcomes at the end of treatment?

SAPAS scores were positively and significantly associated with initial session PHQ-9 ($r = .40$, $p < .001$), GAD-7 ($r = .41$, $SD = p < .001$) and W&SAS ($r = .29$, $p < .001$) scores. SAPAS scores were also positively and significantly correlated with final PHQ-9 ($r = .27$, $p < .001$), GAD-7 ($r = .30$, $p < .001$), and W&SAS ($r = .26$, $p < .001$) scores.

SAPAS total score was entered as a predictor in three multiple regression models with last session scores of PHQ-9, GAD-7 and W&SAS as the dependent variable (Table 2). The models were all highly significant and accounted for approximately one third of the variance in outcome. Higher SAPAS scores independently predicted a greater number of depression and anxiety symptoms, and greater functional impairment at last session. The addition of SAPAS to each model resulted in small, statistically significant changes in R^2 for all dependent variables (R-squared change estimate (ΔR^2) with the addition of SAPAS to PHQ-9 model = .005, $p = .02$; ΔR^2 with the addition of SAPAS to GAD-7 model = .009, $p = .003$; ΔR^2 with the addition of SAPAS to W&SAS model = .004, $p = .03$).

We used binary logistic regression to examine the effect of SAPAS total score on “moving towards recovery status”. Analyses included only individuals who met caseness criteria for PHQ-9 (≥ 10) or GAD-7 (≥ 8) at initial assessment respectively. Higher initial PHQ-9 ($B = .17$, $SE = .03$, $Wald = 33.5$, $p < .001$, odds ratio = 1.19, 95% CI = 1.1–1.3), lower number of sessions ($B = -.16$, $SE = .02$, $Wald = 107.1$, $p < .001$, odds ratio = .8, 95% CI = .8–.9) and

higher SAPAS scores ($B = .12$, $SE = .06$, $Wald = 3.9$, $p = .047$, odds ratio = 1.1, 95% CI = 1.0–1.3) independently predicted an increased likelihood of persistent caseness for PHQ-9 after controlling for demographic (age, gender) and initial symptom and functioning scores (overall model effect: $\chi^2 = 4.0$, $p = .046$). Similarly, higher PHQ-9 ($B = .08$, $SE = .02$, $Wald = 12.9$, $p < .001$, odds ratio = 1.08, 95% CI = 1.0–1.1), lower number of sessions ($B = -.18$, $SE = .02$, $Wald = 122.8$, $p < .001$, odds ratio = .8, 95% CI = .8–.9) and higher SAPAS scores ($B = .12$, $SE = .06$, $Wald = 5.1$, $p = .024$, odds ratio = 1.13, 95% CI = 1.0–1.3) independently predicted an increased likelihood of persistent caseness for GAD-7 after controlling for demographic (age, gender) and initial symptom and functioning scores (overall model effect: $\chi^2 = 5.1$, $p = .24$). Of note, neither age nor gender, nor initial GAD-7 nor W&SAS significantly predicted persistent caseness at end of treatment.

3.4. Is SAPAS score associated with amount of change on PHQ-9, GAD-7 and W&SAS?

Table 3 displays the results obtained from linear regression analyses examining predictors of change scores. After controlling for the effects of age, sex, initial symptom scores and the number of clinical sessions, higher SAPAS scores independently predicted less change on clinical (PHQ-9 and GAD-7) and functional (W&SAS) outcomes. The addition of SAPAS to the models was associated with small, significant improvements in R^2 . Models accounted for 20–30% of the variance (Table 3).

3.5. Does SAPAS score predict differences in treatment engagement?

Individuals who had an unscheduled discontinuation (i.e. dropped out of treatment or failed to engage; excluding those who

Table 2
Regression models examining predictors of PHQ-9, GAD-7 and W&SAS scores at end of treatment.

	B (SE)	Beta	t	p	95% CI
Dependent variable: last session PHQ-9					
$F_{(7, 648)} = 51.72$, $p < .001$; Adj. $R^2 = .35$					
Gender	-.18 (.47)	-.01	-.38	.706	-1.1–.75
Age	.04 (.02)	.07	2.20	.028	-.00–.08
Number of sessions	-.23 (.03)	-.22	-6.77	.000	-.30 to -.17
PHQ-9 First	.53 (.05)	.49	10.12	.000	.43–.63
GAD-7 First	.00 (.06)	.00	.07	.946	-.11–.12
W&SAS First	.06 (.03)	.07	1.92	.055	-.00–.11
SAPAS	.29 (.13)	.08	2.28	.023	.04–.56
Dependent variable: last session GAD-7					
$F_{(7, 648)} = 42.66$, $p < .001$; Adj. $R^2 = .32$					
Gender	-.05 (.41)	-.00	-.12	.908	-.85–.75
Age	.03 (.02)	.06	1.80	.072	-.00–.06
Number of sessions	-.20 (.03)	-.22	-6.82	.000	-.26 to -.15
PHQ-9 First	.23 (.05)	.25	5.07	.000	.14–.32
GAD-7 First	.29 (.05)	.26	5.70	.000	.19–.39
W&SAS First	.03 (.03)	.05	1.24	.216	-.02–.08
SAPAS	.34 (.11)	.11	3.03	.003	.12–.57
Dependent variable: last session W&SAS					
$F_{(7, 648)} = 51.18$, $p < .001$; Adj. $R^2 = .35$					
Gender	.12 (.64)	.01	.19	.848	-1.1–1.4
Age	.02 (.03)	.03	.91	.363	-.03–.07
Number of sessions	-.21 (.05)	-.14	-4.39	.000	-.30 to -.11
PHQ-9 First	.44 (.07)	.30	6.31	.000	.31–.59
GAD-7 First	-.13 (.08)	-.07	-1.64	.102	-.29–.03
W&SAS First	.40 (.04)	.39	10.20	.000	.33–.48
SAPAS	.38 (.18)	.07	2.13	.034	.03–.73

KEY: PHQ-9: Patient Health Questionnaire; GAD-7: Generalised Anxiety Disorder assessment; W&SAS: Work and Social Adjustment Scale; SAPAS: Standardised Assessment of Personality – Abbreviated Scale.

R-squared change estimate (ΔR^2) with the addition of SAPAS to PHQ-9 model = .005, $p = .02$; ΔR^2 with the addition of SAPAS to GAD-7 model = .009, $p = .003$; ΔR^2 with the addition of SAPAS to W&SAS model = .004, $p = .03$.
p values <.05 are highlighted in bold.

Table 3
Regression models examining predictors of amount of change over treatment.

	B (SE)	Beta	t	P	95% CI
Dependent variable: Change in PHQ-9					
$F_{(7, 648)} = 27.90$, $p < .001$; Adj. $R^2 = .22$					
Gender	.18 (.47)	.01	.38	.706	-.75–1.1
Age	-.04 (.02)	-.08	-2.20	.028	-.08 to -.00
PHQ-9 First	.47 (.05)	.48	9.05	.000	.37–.57
GAD-7 First	-.00 (.06)	-.00	-.07	.946	-.12–.11
W&SAS First	-.06 (.03)	-.08	-1.92	.055	-.11–.00
SAPAS	-.30 (.13)	-.09	-2.28	.023	-.56 to -.04
Number of sessions	.23 (.03)	.24	6.77	.000	.17–.30
Dependent variable: Change in GAD-7					
$F_{(7, 648)} = 40.65$, $p < .001$; Adj. $R^2 = .30$					
Gender	.05 (.41)	.00	.12	.908	-.75–.85
Age	-.03 (.02)	-.06	-1.80	.072	-.06–.00
PHQ-9 First	-.23 (.05)	-.25	-5.07	.000	-.32 to -.14
GAD-7 First	.71 (.05)	.65	13.89	.000	.61–.81
W&SAS First	-.03 (.03)	-.05	-1.24	.216	-.08–.02
SAPAS	-.34 (.11)	-.11	-3.03	.003	-.57 to -.12
Number of sessions	.20 (.03)	.23	6.82	.000	.15–.26
Dependent variable: Change in W&SAS					
$F_{(7, 648)} = 39.79$, $p < .001$; Adj. $R^2 = .29$					
Gender	-.12 (.64)	-.01	-.19	.848	-1.4–1.1
Age	-.02 (.03)	-.03	-.91	.363	-.07–.03
PHQ-9 First	-.45 (.07)	-.32	-6.31	.000	-.59 to -.31
GAD-7 First	.13 (.08)	.08	1.64	.102	.03–.29
W&SAS First	.60 (.04)	.60	15.09	.000	.52–.67
SAPAS	-.38 (.18)	-.08	-2.13	.034	-.73 to -.03
Number sessions	.21 (.05)	.15	4.39	.000	.11–.30

PHQ-9: Patient Health Questionnaire; GAD-7: Generalised Anxiety Disorder assessment; W&SAS: Work and Social Adjustment Scale; SAPAS: Standardised Assessment of Personality – Abbreviated Scale.

R-squared change estimate (ΔR^2) with the addition of SAPAS to PHQ-9 model = .006, $p = .02$; ΔR^2 with the addition of SAPAS to GAD-7 model = .010, $p = .003$; ΔR^2 with the addition of SAPAS to W&SAS model = .005, $p = .03$.
p values <.05 are highlighted in bold.

were referred on, deceased or who were not suitable for service) had significantly higher SAPAS scores ($M = 4.09$, $SD = 1.86$, $N = 349$) than those who completed treatment ($M = 3.70$, $SD = 1.92$, $N = 467$) ($t(814) = 2.86$, $p = .004$). We therefore examined whether there was an independent association between SAPAS score and discontinuation from treatment. After adjusting for the effects of potential confounders in a binary logistic regression model (i.e. age, gender, initial PHQ-9, GAD-7, and W&SAS scores), SAPAS score did not independently predict treatment completion status ($p = .39$). This was however predicted by lower baseline depression score ($B = -.07$, $SE = .02$, Wald statistic = 17.77 $p < .001$, odds ratio = .93, 95% CI = .90–.96), higher baseline functional impairment score ($B = .02$, $SE = .01$, Wald statistic = 5.43, $p = .020$, odds ratio = 1.0, 95% CI = 1.0–1.0) and older age ($B = .02$, $SE = .01$, Wald statistic = 11.92, $p = .001$, odds ratio = 1.0, 95% CI = 1.0–1.0).

4. Discussion

In this large sample of IAPT attenders with anxiety and depression, the likely presence of co-morbid personality disorder, as indexed by the SAPAS, was independently associated with poorer outcomes at end of treatment. Higher SAPAS scores predicted higher symptom scores on both the PHQ-9 and GAD-7 and greater functional impairment measured by the W&SAS at last clinical contact and this association was independent of the effects of initial symptom score and demographic background. Higher SAPAS scores also predicted persistent caseness at end of treatment for both PHQ-9 and GAD-7. We therefore verified our primary hypothesis. In addition, after controlling for demographic and clinical variables and the number of sessions, higher SAPAS scores predicted reduced raw change on all outcomes. The absolute increase in predictive power of the models with the addition of SAPAS data was significant but modest. Nevertheless, our models confirmed that personality difficulties are independently associated with poorer treatment outcomes in IAPT. Finally, it was hypothesised that higher SAPAS scores would be associated with higher rates of unscheduled discontinuation of treatment. This hypothesis was not supported; instead the data suggested that treatment completion was associated with lower baseline depression score, higher functional impairment and older age.

4.1. Comparison to previous studies

To our knowledge, the only available analysis of predictors of recovery within IAPT services was a report conducted by Gyani and colleagues based on data from 32 of the first wave of IAPT sites (Gyani et al., 2011). This report found that 42.4% of people achieved the 'moving towards recovery' status and approximately 64% of people made reliable improvement. Severe symptomatology was associated with reduced recovery rates but greater absolute change and this was replicated in the current study. In addition, the report found that a greater number of sessions was associated with more improvement, and that those with more severe symptomatology were more likely to receive a greater number of sessions (Gyani et al., 2011). To date, there have been no other published studies reporting clear predictors of treatment outcome in IAPT services, although the protocol for a study that is at an early stage has been published (Grant et al., 2014). The current findings are consistent with others studies reporting that the presence of personality disorder adversely affects treatment outcome for depression. In contrast, Joyce et al. (2007) found that personality disorder was associated with poorer outcomes in Interpersonal psychotherapy but not CBT for depression. Differences in methodology (e.g. clinical interview vs short screening measure) or sample size may explain

these differences in results. Also, the participants in Joyce et al. (2007) study received 16 sessions of weekly therapy whereas the mean number of sessions in the present study was 9. It is possible that there is an effect of time and that with more sessions the effect of a personality disorder on treatment response attenuates. Indeed, Steketee et al. (2001) suggest that individuals with personality difficulties are more cautious to engage in treatment and progress may be slower than for individuals without personality difficulties.

Our results are also consistent with literature on the impact of personality disorder on treatment for anxiety disorders (e.g. Black et al., 1994; Hansen et al., 2007; Latas & Milovanovic, 2014; Steketee et al., 2001; Telch et al., 2011). In contrast, Dreessen, Arntz, Luttels, and Sallaerts (1994) argue that individuals with personality disorders show a similar amount of change after treatment for anxiety disorders, although their higher initial symptom severity is associated with higher symptom scores at end of treatment. Importantly, our study showed an effect of high risk of personality disorder on both end of treatment scores and raw change over the course of treatment even after controlling for the confounding effects of initial symptom scores. In addition, the effect was not explained by the potential confounding effects of age, gender, or the number of treatment sessions received.

The presence of a personality disorder may affect treatment outcomes through a number of mechanisms, including increased rates of treatment drop out (Jinks, McMurran, & Huband, 2012; McMurran, Huband, & Overton, 2010; O'Brien, Fahmy, & Singh, 2009; Percudani, Belloni, Contini, & Barbui, 2002; Tyrer et al., 2010), service related factors (Crawford et al., 2009), the occurrence of a more fragile therapeutic alliance (Bienfeld, 2007; Martino, Menchetti, Pozzi, & Beradi, 2012), or through reduced patient or clinician expectations (Martino et al., 2012; Ramon, Castillo, & Morant, 2001). Personality disorder might be assumed to have an adverse impact on attendance for treatment. However, we found that although individuals with high SAPAS scores were less likely to continue treatment compared to those with low SAPAS scores, this association was confounded by higher symptom severity on the PHQ-9. Therapist factors (particularly, experience, and levels of supervision and training) are likely to also be very important in determining the efficacy of treatment but we were unable to explore this issue in this study.

4.2. Implications

There is a growing need and expectation of mental health services in the UK to make psychological therapies available to individuals with severe mental illness, including personality disorder (Department of Health, 2011). The data presented in this paper indicate that IAPT services are certainly being accessed by groups of individuals at high risk of a personality disorder and that these individuals do respond to treatment for their anxiety and depression, albeit with smaller effects. Our study has shown that the inclusion of a short personality screening assessment in the initial assessment battery provides potentially useful prognostic information and this information could be used to enhance the provision of IAPT services for these individuals. For example, clinicians and service users could use a brief personality assessment to explore how co-occurring personality difficulties may relate to their presenting difficulties with depression and anxiety. This information may also guide clinicians in the delivery of treatment, for example, by highlighting a need to focus more on core beliefs compared to automatic thoughts (Bienfeld, 2007), to include specific skills training or structured clinical management as part of treatment (Bateman & Fonagy, 2005), and to give greater consideration to the impact of the ending of therapy on individuals with co-morbid personality difficulties.

As the IAPT programme expands its remit, it is essential that IAPT staff receive adequate training and supervision on the assessment and treatment of individuals with significant personality difficulties, as well as the impact these difficulties have on the presenting depression and anxiety. Such training may lead to improved treatment outcomes, as well as improved awareness of the impact of personality disorders on the team, the therapeutic relationship and on individual clinicians. The consideration of how personality difficulties influence an individual's clinical presentation will help inform the response of IAPT services to these individuals. The provision of a reflective space for clinicians may support them in maintaining a therapeutic stance and prevent a sense of hopelessness that may ensue as a result of significant numbers of individuals not attaining the desired “moving towards recovery” status.

5. Methodological considerations

Key strengths of this study include its prospective and pragmatic design, large sample size, and the fact that we controlled for initial symptom severity in outcome analyses and examined both end of treatment scores as well as change scores (Dreessen et al., 1994). However, there are also limitations to this study that need to be considered. Self-report measures of personality disorder may over-estimate personality pathology compared to clinical interviews (e.g. Chambless, Renneberg, Goldstein, & Gracely, 1992). Diagnostic data on personality disorder is not routinely collected by IAPT services and so we are unable to comment on the likely extent of over-diagnosis in this sample. However, the SAPAS has good diagnostic specificity when compared against a standardised interview (.85 at cut-point of 3 in the original validation study; Moran et al., 2003) and is a pragmatic alternative to lengthy interviews that could not possibly be conducted in the busy setting of an IAPT service. The internal consistency of the SAPAS in the present study is comparable to that obtained in other samples (Germans et al., 2008). Alpha values are dependent on the number of scale items and the dimensionality of the underlying construct being measured. The SAPAS is screening for a heterogeneous and multidimensional construct (the broad category of personality disorder) and we would therefore not anticipate a high level of internal consistency. Individuals who did not have paired outcome data available, and were therefore not included in the present analysis, had more severe initial symptom and SAPAS scores than those for whom the complete data were available. This introduces the possibility of selection bias and it is uncertain whether the relationships presented in this paper can be generalised to a group with more severe symptoms.

The present study could not differentiate between different types of personality disorder or treatment types and it is possible that different personality subtypes have differential effects on outcome. Also, it was not possible to analyse the data according to treatment type, although the vast majority of people are offered CBT and stratifying the data by treatment type would have yielded under-powered analyses. Future research should examine these issues further. The present study did not analyse data according to diagnostic category of outcomes (e.g. depression, specific anxiety disorder diagnoses) and it is possible that the disorder specific treatments for Axis 1 disorders are differentially affected by personality disorder. Personality disorder is associated with recurrent depression, but we were unable to adjust for the potential confounding effects of the number of previous episodes, nor duration of illness. Nonetheless, Gorwood et al. (2010) found that personality disorder was a stronger predictor of treatment outcome than the number of previous episodes of depression. Other potential confounding factors which we were

unable to examine include therapist factors (e.g. age, experience, supervision and training) and the socio-economic status of the patient.

6. Summary

In summary, the current study found that individuals at risk of a personality disorder are less likely to have a favourable response to psychological treatment as delivered by an IAPT service. The use of a brief screening tool for personality disorder can provide valuable prognostic information and this may inform the delivery of more effective treatment. Patients presenting with co-morbid personality difficulties to IAPT services may potentially require an adapted form of psychological treatment if they are to benefit from treatment to the same extent as patients presenting with depression and anxiety without co-morbid personality difficulties. In addition, IAPT services may need to consider providing additional training and supervision on the management of personality disorder, in order to ensure that therapists are able to provide effective interventions to individuals presenting with more complex psychological difficulties.

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